



The background features a stylized tree with a brown trunk and a green canopy. The branches are represented by colorful, curved lines that fan out from the bottom. Each branch is labeled with a career pathway in white text. The visible labels include: 'Food Products and Processing Systems' (green, bottom right), 'Agribusiness Systems' (orange, middle right), 'Natural Resources Systems' (light blue, top right), 'Power, Structural and...' (purple, top center), 'Biot...' (teal, top left), 'Environm...' (red, top left), and '...' (light green, bottom left). The text is partially obscured by a large green banner.

Agriculture Career Pathways



Production Agriculture

Soil Science

- Pedology
- Soil Physics
- Soil Chemistry
- Soil Microbiology
- Soil Mineralogy
- Soil Management

- Ag Engineering
- Ag Economics
- Ag Business/ Education
- Ag Biotech/ Chemistry

Plant Science

- Plant Physiology
- Plant Pathology
- Plant Protection
- Plant Breeding & Genetics

Forestry (silviculture)

Crop Science

Turfgrass Sci.

- Agronomy
- Horticulture
- Viticulture (grape & wine)
- Weed Science
- Seed Science

- Floriculture
- Landscaping
- Olericulture (veg.)
- Pomology (fruit)

Animal Science

- Livestock Science
- Dairy Science
- Poultry Science
- Swine Science
- Equine Science

- Beef/Pork Prod. & Manag.
- Poultry Prod. & Manag.
- Small Ruminant P & M
- Apiculture (beekeeping)
- Aquaculture
- Sericulture (silk)
- Vermiculture (worms)

Food Processing & Consumption

- Food Science
- Food Chemistry
- Food Microbiology
- Food Engineering
- Food Analysis
- Food Product Development & Evaluation
- Food Processing & Packaging
- Food Safety & Quality
- Culinary Arts
- Food Economics: Consumer Behavior
- Food Market Research
- Commercialization of Food Products
- Food Policy & Regulations

Natural Resources

(Wetland) Biology

(Wildlife) Ecology

Ichthyology

Ornithology

Dendrology

Mammalogy

Climatology

Soil Resources

Water Resources Management

(Urban) Forestry

Fisheries & Wildlife Conservation

Ecological Restoration

Land Use Planning

Landscape Analysis

Integrated Watershed Management

Environ. Assessment & Justice

Conservation Law Enforcement

Essential knowledge & skills for an agriculture career

- ✓ Academic foundations
- ✓ Technical skills
- ✓ Effective communication skills
- ✓ Problem solving & critical thinking
- ✓ Teamwork spirit & skills
- ✓ Information technology (IT) systems
- ✓ Knowledge of safety, health & environment
- ✓ Ethics & legal responsibilities
- ✓ Employability & career development



Agriculture career pathways in



- ❖ Plant systems
- ❖ Animal systems
- ❖ Food processing systems
- ❖ Agribusiness systems
- ❖ Natural resources systems
- ❖ Environmental systems
- ❖ Biotechnology
- ❖ Structural & technical systems

Career pathways in plant systems



To study plants & their growth. Use genetic engineering to improve crops; develop ways to enhance seeds, crop yield, soil health, & the environment

- ❖ Crop grower
- ❖ Landscaper
- ❖ Forester
- ❖ Nursery/park/plantation manager
- ❖ Agronomist/horticulturist/biologist
- ❖ Soil scientist/conservationist
- ❖ Agrochemist

Career pathways in animal systems



Study genetics, nutrition, reproduction, growth of farm animals; develop new ways of producing and processing meat, dairy, egg, & fur.

- ❖ Animal farmer
- ❖ Animal caretaker (veterinarian & assistant)
- ❖ Zoo/lab animal technician
- ❖ Livestock finish technician
- ❖ Fisheries & wildlife conservationist
- ❖ Animal breeder
- ❖ Animal scientist

Career pathways in food processing systems



Develop new food products and ways to process, preserve, pack, & store food, analyze food content, and inspect food processing areas.

- ❖ Food process engineer (butcher, meat cutter)
- ❖ Food production specialist
- ❖ Grain facility operator
- ❖ Food inspector
- ❖ Sales representative
- ❖ Nutritionist
- ❖ Food scientist & technologist

Career pathways in **agribusiness systems**



Coordinate the production, processing, marketing, distribution, and financing of ag commodities & resources to increase efficiency & profitability.

- ❖ **Farm product dealers** (buying & selling agents)
- ❖ **Ag equipment sales representative**
- ❖ **Ag production supervisor/manager**
- ❖ **Farm labor contractor**
- ❖ **Ag economist or policy analyst**
- ❖ **Supply chain coordinator**
- ❖ **Ag marketing specialist**

Career pathways in natural resources systems



Maintain and manage natural & urban environments; protect wildlife & natural resources; maintain parks.

- ❖ Conservationist
- ❖ Restoration specialist
- ❖ Forester
- ❖ Logger
- ❖ Sawmill operator
- ❖ Aquaculturist
- ❖ Water resource engineer
- ❖ Watershed manager

Career pathways in environmental systems



- Manage waste disposal & recycling operations, control water & air pollution; develop regulations to prevent environmental mishaps.
- ❖ Waste abatement technician
 - ❖ Recycling & landfill supervisor
 - ❖ Water resource manager
 - ❖ Environmental engineer
 - ❖ Environmental scientist
 - ❖ Environmental service director
 - ❖ Env. regulatory compliance specialist

Career pathways in **biotechnology**



Use genetic engineering, biorefining, tissue culture, & breeding techniques to develop products or improve organisms for specific agricultural uses

- ❖ Bioproduct developer
- ❖ Controlled-environment producer
- ❖ Biorefining system operator
- ❖ Biomedical engineer
- ❖ Ag safety inspector
- ❖ Lab technician
- ❖ Biological scientist

Career pathways in structural & technical systems



Apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures & controls to ag. Innovate, design and build solutions.

- ❖ Precision ag machinery operator
- ❖ Ag mechanical engineer
- ❖ Agrivoltaic engineer
- ❖ Wind turbine technician
- ❖ Fuel distribution operator
- ❖ Plant maintenance technician
- ❖ Ag equipment sales representative